

ILLUMINATED COMPUTER KEYBOARD

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a computer keyboard, and more particularly to an illuminated computer keyboard that can be used in the dark.

2. Description of Related Art

When a person is using a computer and electric power is unexpectedly interrupted, data not saved to computer memory will be lost. To prevent unexpected loss of memory, the computer is connected to an uninterruptible power supply (UPS) to provide electric power when the electric power is lost unexpectedly. However, loss of electric power also causes the lights to go out. Although the computer is connected to a UPS and has power, the computer keyboard is lighted by ambient light and light from the monitor so the keyboard may not be able to be seen clearly. If a person does not know the location of the keys on the keyboard, the computer keyboard cannot be used in the dark even though the computer is operable.

The present invention has arisen to mitigate or obviate the disadvantages of conventional computer keyboards.

SUMMARY OF THE INVENTION

The main objective of the present invention is to provide an illuminated computer keyboard that can be used in the dark.

To achieve the objective, an illuminated computer keyboard in accordance with the present invention comprises a transparent layer, a resilient member, multiple printed circuit boards, an illuminant board and a casing. The

1 transparent layer has multiple keys. The resilient member is mounted under the
2 transparent layer, is translucent and has multiple resilient protrusions
3 corresponding respectively to the keys in the transparent layer to press the keys
4 against the transparent layer. The multiple printed circuit boards are mounted
5 under the resilient member, are translucent and have multiple switches
6 corresponding respectively to the keys on the transparent layer. The illuminant
7 board is mounted under the multiple printed circuit boards and is run by a power
8 supply. The casing hold the transparent layer, the resilient member, the multiple
9 printed circuit boards and the illuminant board. When the illuminant board is
10 illuminated and light passes through the transparent layer, the keyboard can be
11 clearly seen and used in the dark.

12 Further benefits and advantages of the present invention will become
13 apparent after a careful reading of the detailed description with appropriate
14 reference to the accompanying drawings.

15 BRIEF DESCRIPTION OF THE DRAWINGS

16 Fig. 1 is a perspective view of an illuminated computer keyboard in
17 accordance with the present invention;

18 Fig. 2 is an exploded perspective view of the illuminated computer
19 keyboard in Fig. 1;

20 Fig. 3 is an enlarged top plan view in partial section of an embodiment of
21 an illuminant board and multiple printed circuit boards of the illuminated
22 keyboard in Fig. 1;

23 Fig. 4 is a circuit diagram of a drive circuit for the illuminant board and a
24 transformer of the illuminated keyboard in Fig. 1;

1 Fig. 5 is a perspective view of a first embodiment of the illuminated
2 computer keyboard in a notebook computer;

3 Fig. 6 is a perspective view of a second embodiment of the illuminated
4 computer keyboard used with a desktop computer.

5 DETAILED DESCRIPTION OF THE INVENTION

6 With reference to Figs. 1 and 2, an illuminated computer keyboard in
7 accordance with the present invention comprises a transparent layer (10), a
8 resilient member (20), multiple printed circuit boards (30), an illuminant board
9 (40) and a casing (50). The transparent layer (10) is transparent and has a bottom
10 surface (not numbered) and multiple keys (12). The keys (12) are movably
11 seated through the bottom surface of the transparent layer (10). The resilient
12 member (20) is translucent, is mounted under the transparent layer (10) and has
13 multiple resilient protrusions (22), which correspond respectively to the keys (12)
14 and press the keys (12) against the bottom surface of the transparent layer (10).

15 The multiple printed circuit boards (30) are translucent, are mounted
16 under the resilient member (20), form multiple electrical switches (not numbered)
17 and may comprise a top printed circuit board (not numbered), an insulation
18 board (not numbered) and a bottom printed circuit board (not numbered). The
19 electrical switches correspond respectively to the keys (12) on the transparent
20 layer (10). The top and bottom printed circuit boards have multiple electrical
21 contacts (32) corresponding respectively to the keys (12) of the transparent layer
22 (10), which send an electrical signal unique to the corresponding key (12) to the
23 computer when the electrical contacts (32) make contact. The insulation board
24 has multiple holes (34) corresponding respectively to the electrical contacts (32)

1 on the top and bottom printed circuit boards. The holes (34) in the insulation
2 board allow the electrical contacts (32) on the top printed circuit board to make
3 contact with the electrical contacts (32) on the bottom printed circuit board. The
4 structure and function of the multiple printed circuit boards (30) are known to
5 people skilled in the art and are not further described.

6 With further reference to Fig. 3, the illuminant board (40) is mounted
7 under the multiple printed circuit boards (30) and powered by a power supply.
8 Preferably, the illuminant board (40) is powered by the computer power supply.
9 The illuminant board (40) may be a single illuminating element or may have
10 multiple arc-shaped illuminators (44) with inside faces (not numbered) and
11 outside faces (not numbered). The illuminant board (40) preferably is an
12 electroluminescent panel. The multiple arc-shaped illuminators (44) are formed
13 in pairs and around the corresponding electrical switch on the printed circuit
14 boards (30). The inside faces of the arc-shaped illuminators in each pair are faced
15 each other. With further reference to Fig. 4, the illuminant board (40) further
16 comprises a transformer (42) connected to a computer power supply (not shown).
17 The transformer (42) receives an input voltage from the computer power supply
18 and outputs an output voltage to the illuminant board (40).

19 The casing (50) holds the transparent layer (10), the resilient member
20 (20), the multiple printed circuit boards (30) and the illuminant board (40).

21 With further reference to Figs. 5 and 6, the illuminated computer
22 keyboard can be used in a notebook computer (60) or a desktop computer (70).
23 When the illuminant board (40) is illuminating and light passes through the
24 transparent layer (10), the transparent layer (10) can be clearly seen and used in

1 the dark. Furthermore, the preferred luminescent board has the advantages of
2 saving electricity and producing no heat.

3 Although the invention has been explained relative to its preferred
4 embodiment, many other possible modifications and variations can be made
5 without departing from the spirit and scope of the invention as hereinafter
6 claimed.